

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2004	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					0305204N Tactical Unmanned Aerial Vehicles			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost		65.493	85.713	53.439	69.753	55.957	23.244	11.504
A2478 Tactical Control System		16.074	27.106	8.917	9.293	9.450	9.619	9.796
A2768 Fire Scout Vertical Takeoff & Landing UAV		39.279	36.050	42.876	58.815	44.865	11.949	
A2910 Joint Technology Center/Sys Integ Lab		1.649	1.633	1.646	1.645	1.642	1.676	1.708
A3061 Global Hawk Maritime Demo System*								
A4012 Pioneer Program		6.832	14.002					
A9155 NBC Payload		1.659						
A9432 Coastline Security Technology Initiative			1.730					
A9434 Mini Detection Devices for UAV Payload			0.989					
A9435 Precision Re-Supply Vehicle			4.203					
*Global Hawk Maritime Demonstration System budget shown in Program Element 0305205N.								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for the development of Tactical Unmanned Aerial Vehicle systems that provide warfighters with dedicated day/night Aerial Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities; and, intelligence, communications/data dissemination; electronic warfare; weather data collection to support combat operations; minefield detection; and nuclear/biological/chemical reconnaissance in limited adverse weather capabilities.</p> <p>Tactical Control System (TCS): TCS provides interoperability for command and control of the present and future Tactical and Medium Altitude Endurance (MAE) UAVs and their payloads utilized for RSTA and combat assessment. TCS provides connectivity to designated C4I systems for the Navy Fire Scout Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). TCS will also be evaluated for all future Naval UAVs. TCS is being developed in concert with the development of UAV concept of operations (CONOPS) so as to ensure system functionality within operational requirements.</p> <p>Vertical Takeoff and Landing UAV (VTUAV): VTUAV (also referred to as the Fire Scout VTUAV) provides real-time and non-real-time intelligence, surveillance and reconnaissance data to tactical users, including Line-of-sight tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay), without the use of manned aircraft or reliance on limited joint theater or national assets. The Fire Scout VTUAV air vehicle is designed for modular mission payloads, autonomous vertical launch and recovery, autonomous waypoint navigation, command override capability, and can operate from all air capable ships as well as confined area land bases. Interoperability is achieved through the Tactical Control System (TCS) software in the ground control station, and through the use of the Tactical Common Data Link. The FY 2004 program completes initial shipboard testing and integration begins design activities for system upgrades including weaponization, survivability, plug-and-play architecture, to meet fielding on LCS in FY07, and initiates the buy of LRIP 2.</p>								

R-1 SHOPPING LIST - Item No.

197

UNCLASSIFIED

Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 1 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /BA-7		R-1 ITEM NOMENCLATURE 0305204N Tactical Unmanned Aerial Vehocles
<p>JTC/SIL: The Joint Technology Center/System Integration Laboratory provides experimentation for UAV technology assessment, insertion, demonstration, transfer, as well as simulation and exercise support.</p> <p>Global Hawk Maritime Demonstration (GHMD) System: Budget reflected under Program Element 0305205N.</p> <p>Pioneer Unmanned Aerial Vehicle Program: The Pioneer Unmanned Aerial Vehicle (UAV) provides near real time reconnaissance, surveillance, target acquisition, combat assessment and battlefield management within LOS of a Ground Control Station (GCS) in limited weather, both day and night. Deployments have supported numerous joint military operations and contingencies including Bosnia Herzegovina, Somalia, the Adriatic, Persian Gulf operations, DESERT SHIELD and DESERT STORM and OPERATION IRAQI FREEDOM (OIF). During OIF both Marine Pioneer VMU systems were deployed and flew a total of 2357.3 hours in support of combat operations. The VMUs are preparing for future extended deployments. To date, the system has flown in excess of 26,000 flight hours.</p> <p>Nuclear, Biological, Chemical (NBC) Payload: The NBC Payload is for Miniature Detection Devices as part of the Naval UAV Payload effort to be used only for the continuation of an industry based research program for light weight low power Nuclear, Chemical and Biological (NBC) sensors and isotope identification techniques utilizing Micro-Electro-Mechanical Systems (MEMS) technology and innovative detection devices to identify airborne chemical/biological threats and hazardous materials.</p> <p>Coastline Security Technology Initiative: Congressional add of \$1.75M in RDT&E,N for the Coastline Security Technology Initiative that is only for continuation of work with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along US Coastlines.</p> <p>Miniature Detection Devices for Navy UAV Payload: Congressional add of \$1.0M in RDT&E,N. Continued development of lightweight, low power NBC sensors and isotope identification techniques utilizing MEMS technology and innovative detection devices to identify ariborne chemical/biological threats and hazardous material.</p> <p>Precision Re-Supply Vehicle: Congressional add of \$4.25M in RDT&E,N for Precision Re-Supply Vehicle.</p>		

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 2 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A2478 Tactical Control System			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A2478 Tactical Control System		16.074	27.106	8.917	9.293	9.450	9.619	9.796
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

*Includes the following Congressional adds: In FY2004: \$2.4M for JOTBS, less \$.027M Congressional undistributed reductions; In FY 2003: \$4.1 million for JOTBS and \$3.0 million for TCS sensor data receipt from multiple UAVs and \$1.0M for the Multiple Link Antenna System ACTD, less Congressional undistributed reductions.

The Tactical Control System (TCS) is developing a standards based system that provides interoperability and commonality for C4I interfaces and command and control for Navy Unmanned Aerial Vehicles (UAVs) including the Navy Fire Scout Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). TCS will also be evaluated for all future Naval UAVs.

Provides a full range of scaleable UAV capabilities from passive receipt of air vehicle and payload data to full air vehicle and payload command and control. TCS offers the war fighter a common core operating environment to simultaneously receive, process, and disseminate UAV data from different UAV types for reconnaissance, surveillance, and combat assessment.

Provides UAV command, control and processing from land and sea based ground stations.

TCS maximizes the use of contractor and government off-the shelf hardware and software whenever possible. TCS software is interoperable and is compliant with the OSD(C3I) Joint Technical Architecture (JTA) and Distributed Common Ground/Surface System (DCGS) standards.

TCS development continues to meet the updated VTUAV ORD requirements and add key technologies that will be used by UAV Systems.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2478 Tactical Control System																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 10%;"></th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">7.474</td><td style="text-align: center;">24.733</td><td style="text-align: center;">8.917</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		7.474	24.733	8.917	RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		7.474	24.733	8.917															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">FY2003: Continued TCS Fire Scout VTUAV development, including validation and flight-testing of the Fire Scout VTUAV payload functions and TCDL command and control, and initiated TCS GHMD UAV development. FY2004: Continue TCS Fire Scout VTUAV development. Complete multi-vehicle UAV control. Initiate new Fire Scout's TCS capabilities to support requirements for Littoral Combat Ship (LCS) integration. Initiate TCS STANAG 4586 compliance. Initiate TCS Command, Control, Communications, Computers and Intelligence (C4I) interface testing for Fire Scout VTUAV required C4I systems. FY2005: Continue new TCS capabilities to support requirements for Fire Scout VTUAV LCS integration. Continue standard compliance. Continue TCS Command, Control, Communications, Computers and Intelligence (C4I) interface testing for Fire Scout VTUAV required C4I systems.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 10%;"></th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">1.500</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		1.500	0.000	0.000	RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		1.500	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">FY2003: Continued General Test Support for Multiple Link Antenna System/Multi-function Self-Aligned Gate Array Technology (MLAS/MSAG) Advanced Concept Technology Demonstration (ACTD), including testing of tile technology and overall MLAS system at contractor and government facilities. Also includes test support at field and contractor facilities in FY03.</div>																			
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		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		4.100	2.373	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;">FY2003: Developed for Joint Forces Command the capability to fly multiple dissimilar UAVs by initiating JOTBS enhancements. FY2004: Continue JOTBS enhancements and support of UAV experimentation.</div>																			

R-1 SHOPPING LIST - Item No.

197

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 4 of 46)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicle	PROJECT NUMBER AND NAME A2478 Tactical Control System		
B. Accomplishments/Planned Program (Cont.)				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.000	0.000	0.000
RDT&E Articles Quantity				
<div>TCS modifications to receive sensor data from a variety of UAVs, including GHMD HAE UAV.</div>				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
<div></div>				
		FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost				
RDT&E Articles Quantity				
<div></div>				

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicle	A2478 Tactical Control System

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	16.675	36.711	8.954
Current BES/President's Budget	16.074	27.106	8.917
Total Adjustments	-0.601	-9.605	-0.037
Summary of Adjustments			
Economic Assumptions			-0.033
Congressional Undistributed Reductions		-0.305	
Reprioritization		-11.700	-0.004
Reprogrammings	-0.601		
Congressional Increases		2.400	
Subtotal	-0.601	-9.605	-0.037

Schedule:

Current schedule reflects changes from the previous President's Budget submission due to program restructure and reduced funding in FY 2004. Congressional direction for TCS mandated a Navy-centric program focused on sustaining current Navy requirements. The current schedule reflects the restructured acquisition strategy for TCS to support primarily the Navy Fire Scout UAV.

Technical: Not applicable

D. OTHER PROGRAM FUNDING SUMMARY: Not applicable

E. ACQUISITION STRATEGY:

These acquisitions will be made by modifying the competitively awarded TCS contract, awarded to Raytheon in 2000; as well as, through the TCS Basic Order Agreement with Raytheon, both of which are cost plus contracts. TCS development and testing will be accomplished via a Government/Industry team.

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 6 of 46)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicle			A2478 Tactical Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPAF	Raytheon, Falls Church, VA	51.380	5.073	11/02	18.868	03/04	5.912	11/04	Continuing	Continuing	
Ancillary Hardware Development	WX	Various	5.761							Continuing	Continuing	
Aircraft Integration											0.000	
Ship Integration											0.000	
Systems Engineering	WX	NAWCAD, Pax River, MD	2.321							Continuing	Continuing	
Systems Engineering	WX	NSWC-Dahlgren, VA	4.634							Continuing	Continuing	
Training Development	WX	NSWC-IH, Indian Head, MD	5.584							Continuing	Continuing	
Licenses											0.000	
Primary Hardware Development	C/CPIFAR	NGC-Ryan, San Diego, CA		1.571	09/03						1.571	
GFE											0.000	
Award Fees	C/CPAF	Raytheon, Falls Church, VA	2.341	1.620	06/03	3.044	03/04	0.709	06/05	Continuing	Continuing	
Subtotal Product Development			72.021	8.264		21.912		6.621		Continuing	Continuing	
Remarks: FY03 Primary Hardware Development was reduced to reflect moving JOTBS funding from development to testing.												
Software Development	MIPR	JTC/SIL, Redstone, AL	3.800							Continuing	Continuing	
Integrated Logistics Support	WX	Various	1.460	0.170	11/02					Continuing	Continuing	
Technical Data	WX	Various	2.755							Continuing	Continuing	
Contractor Engineering Support	C/FFP	Various	0.100							Continuing	Continuing	
Government Engineering Support	WX	NAWCAD, Pax River, MD	0.300	2.122	11/02	1.686	03/04	1.481	11/04	Continuing	Continuing	
Government Engineering Support	WX	SPAWAR, San Diego, CA				0.050	03/04	0.050	11/04	Continuing	Continuing	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			8.415	2.292		1.736		1.531		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0305204N Tactical Unmanned Aerial Vehicle			A2478 Tactical Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	JITC, Indian Head, MD	0.990			0.150	03/04	0.350	11/04	Continuing	Continuing	
Developmental Test & Evaluation	WX	NSWC, Dahlgren, VA	2.051							Continuing	Continuing	
Operational Test & Evaluation	WX,MIPR	Various	1.480							Continuing	Continuing	
Test Assets	WX	NSWC, Dahlgren, VA	1.000	1.500	12/03					Continuing	Continuing	
Test Assets	WX	USJFCOM, Norfolk, VA		3.705	07/03	2.373	01/04				6.078	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			5.521	5.205		2.523		0.350		Continuing	Continuing	
Remarks: FY03 Primary Hardware Development was reduced to reflect moving JOTBS funding from development to testing.												
											0.000	
											0.000	
Program Management Support	WX	Various	1.450	0.296	11/03	0.885	03/04	0.395	11/04	Continuing	Continuing	
Travel	WX	Various	1.422	0.017	11/03	0.050	03/04	0.020	11/04	Continuing	Continuing	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			2.872	0.313		0.935		0.415		Continuing	Continuing	
Remarks:												
Total Cost			88.829	16.074		27.106		8.917		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0305204N Tactical Unmanned Aerial Vehicles												A2478 Tactical Control System											
Fiscal Year					2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones													FS CDR △								EOC on LCS-Flight 0 ☆			TCS/FS IOC ☆								
Completion of current TCS/FS Requirements																																
New Requirements (STANAG 4586, Weaponization, Plug & Play) Development																																
TCS GHMD Requirements Identification																																
Test & Evaluation Milestones																																
Development Test																																
TCS/FS Shipboard Testing																																
Operational Test																																
Production Milestones																																
Deliveries																																

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-4, Schedule Profile
(Exhibit R-4, page 9 of 46)

UNCLASSIFIED

CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 10 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A2768 Fire Scout Vertical Take-off & Landing UAV		39.279	36.050	42.876	58.815	44.865	11.949	
RDT&E Articles Qty			8					

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Fire Scout Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) was designed to provide real-time intelligence, surveillance and reconnaissance data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline Fire Scout VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). The Fire Scout VTUAV launches and recovers vertically and can operate from all air capable ships as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, a heavy fuel engine and the ability to incorporate Electro-Optical/Infrared/LaserDesignator-Laser Range Finder modular mission payloads. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, STANAG-4586 and through the use of the Tactical Common Data Link (TCDL). The data from the Fire Scout VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence system, architecture and protocols.

A Fire Scout VTUAV system is composed of three air vehicles, three electro-optical/infrared/laser designator-rangefinder payloads, two Ground Control Stations (with TCS and TCDL integrated for interoperability), one UAV Common Automatic Recovery System (UCARS) for automatic take-off and landings, and associated spares and support equipment.

Fire Scout VTUAV Milestone II was approved during FY00, and LRIP was approved during FY01. In FY02, the Fire Scout VTUAV program was restructured to focus on technology development and demonstration. In FY04 the Navy reinstated Fire Scout VTUAV to field on the Littoral Combat Ship (LCS) in response to current requirements for a flexible, multi-mission VTUAV to support mission areas of Anti-Submarine Warfare, Mine Warfare, and Anti-Surface Warfare.

A program to upgrade the Fire Scout VTUAV to meet the new requirements was initiated in FY04. EMD is continuing in FY04 and will include design activities for system upgrades, testing aboard the USS Denver (LPD) and HSV-X2, and TCS integration. Fabrication of the LRIP 1 system was completed in FY03. LRIP 2 was initiated in FY04. As of December 31, 2003, Fire Scout VTUAV has completed 102 flights, accumulating more than 76 flight hours.

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B. Accomplishments/Planned Program																			
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		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		35.052	30.565	36.450															
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		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		0.207	0.732	0.915															
RDT&E Articles Quantity																			
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R-1 SHOPPING LIST - Item No.

197

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 12 of 46)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV																	
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R-1 SHOPPING LIST - Item No.

197

UNCLASSIFIED

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																																													
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R-1 SHOPPING LIST - Item No. 197

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Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 14 of 46)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A2768 Vertical Take-off Landing UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIFAF	NGC-Ryan, San Diego, CA	111.893	35.052	11/02	30.565	11/03	36.450	11/04		213.960	212.960
Ship Integration	PD	NAVSEA, Arlington, VA	3.466							Continuing	Continuing	
Ship Integration	WX	NSWC, Indian Head, MD	0.152								0.152	
											0.000	
											0.000	
											0.000	
											0.000	
Award Fees	C/CPIFAF	NGC-Ryan, San Diego, CA	4.456								4.456	4.456
											0.000	
											0.000	
											0.000	
Subtotal Product Development			119.967	35.052		30.565		36.450		Continuing	Continuing	
Remarks:												
Integrated Logistics Support	WX	Various	7.416	0.207	01/03	0.732	01/04	0.915	11/04	Continuing	Continuing	
Technical Data	WX	NSWC, Crane, IN	0.900							Continuing	Continuing	
Government Engineering Support	WX	NAWCAD, Pax River, MD	7.388	2.212	11/03	2.184	11/03	2.184	11/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			15.704	2.419		2.916		3.099		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	WX	NAWC-AD, Pax River, MD	3.112	1.558	11/02	0.364	11/03	0.635	11/04	Continuing	Continuing		
Operational Test & Evaluation	WX	Various	1.691							Continuing	Continuing		
Developmental Test & Evaluation	WX	China Lake, CA	0.780			0.732	02/04	0.820	11/04	Continuing	Continuing		
											0.000		
											0.000		
											0.000		
											0.000		
Subtotal T&E			5.583	1.558		1.096		1.455		Continuing	Continuing		
Remarks:													
Program Management Support	C/FFP	Various	7.372	0.170	12/02	1.423	12/03	1.822	11/04	Continuing	Continuing		
											0.000		
											0.000		
Travel	WX	Various	0.387	0.080	11/02	0.050	11/03	0.050	11/04	Continuing	Continuing		
											0.000		
											0.000		
Subtotal Management			7.759	0.250		1.473		1.872		Continuing	Continuing		
Remarks:													
Total Cost			149.013	39.279		36.050		42.876		Continuing	Continuing		
Remarks:													

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 46)

EXHIBIT R4, Schedule Profile																								DATE: February 2004									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7										PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles										PROJECT NUMBER AND NAME A2768 VTUAV													
Fiscal Year						2003				2004				2005				2006				2007				2008				2009			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																	
Firescout EMD																																	
Test & Evaluation Milestones																																	
DTII																																	
Combined DT/OT II																																	
OPEVAL																																	
Shipboard Testing																																	
Production Milestones																																	
LRIP II Contract Award																																	
Deliveries																																	
Air Vehicles																																	

Exhibit R-4a, Schedule Detail						Date: February 2004		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N BA-7	PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A2768 VTUAV			
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Acquisition Milestones								
Firescout EMD		1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q	1Q		
FRP							1Q	
IOC							1Q	
Test & Evaluation Milestones								
DT IIB		1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q			
Combined DT/OT IIB					3Q-4Q	1Q-2Q		
OPEVAL						3Q-4Q		
Shipboard Testing			2Q, 4Q			1Q	1Q	
Production Milestones								
LRIP II Contract Award			2Q					
Delivery								
Air Vehicles				4Q	1Q-4Q	1Q-3Q		

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 18 of page 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		1.649	1.633	1.646	1.645	1.642	1.676	1.708
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a center of technical excellence to support all UAV programs within the services. The mission includes Service-specific and Joint ISR programs throughout DoD. The JTC/SIL provides a Government test bed for rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and C4I optimization. The cornerstone of this diverse tool set is the Multiple Unified Simulation Environment (MUSE), which is the Department's simulation/training system of choice for ISR systems, sensors, and platforms.

The Services and Warfighting Commanders have a requirement for the capability to train with a system that provides a real-time simulation environment containing multiple intelligence systems that can be integrated with larger force-on force simulations. The MUSE creates a realistic operational environment which supports the ability to assess military utility, architecture and CONOPS development, Tactics, Techniques, and Procedures (TTP) development and refinement, conduct emerging concepts experimentation, and C4I optimization within warfighting exercises and experiments. It is the only simulation system used by the Combat Commanders and Joint Services to support command and battle staff ISR training; there is no alternative available to satisfy those requirements.

The MUSE also creates a realistic operational environment that supports an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises; and C4I optimization.

MUSE is currently in use within all services and unified commands simulating PREDATOR, GLOBAL HAWK, HUNTER, Shadow 200, and PIONEER UAVs, National and commercial satellite collectors, P-3, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4I systems to support execution of critical imagery processes. For those assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. Distributed training environments, virtually linking participants from various locations worldwide, are routinely supported within the MUSE architecture.

Additionally, the JTC/SIL supports a range of materiel developers, integrating prototypes and trainers into the C4I and training environments of supported units. The Tactical UAV (TUAV) ground station developed by the JTC/SIL includes an embedded MUSE trainer. Interim training capabilities for the Tactical Exploitation System (TES) are currently employed in the joint exercises.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / B.A. 7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab																	
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<div style="border: 1px solid black; padding: 5px; min-height: 40px;"> Laboratory Sustainment includes government management, contracts administration, cost accounting, configuration management, administrative support of the lab, MUSE architecture development, property management/accountability, and procurement of equipment. </div>																			
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<div style="border: 1px solid black; padding: 5px; min-height: 40px;"> MUSE Development - Initial development of UCAV-N model, continued Common Trainer for current platforms, continue to provide ISR simulation support to major exercises and demonstrations, complete integration of TENCAP simulation into PC-based MUSE, complete development of virtual SIGINT platform, continue development of Laser Designator capability, continued upgrade for National Space Assets Enhancements, continued development of UCAV model, continue C4I Enhancements, continued initial Fixed Target Damage simulation. </div>																			
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<div style="border: 1px solid black; padding: 5px; min-height: 40px;"> Maintenance, Licenses and Equipment Purchases includes the day-to-day maintenance of lab equipment, license maintenance and license renewals from vendors for individual pieces of equipment, purchases of equipment to support the MUSE, and purchases to upgrade the MUSE capability. </div>																			

R-1 SHOPPING LIST - Item No.

197

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 20 of 46)

UNCLASSIFIED

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004																																				
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R-1 SHOPPING LIST - Item No. 197

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A2910 Joint Technology Center/Systems Integration Lab						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	Redstone Arsenal, AL	1.033	0.823	11/02	0.822	11/03	0.820	11/04	Continuing	Continuing	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			1.033	0.823		0.822		0.820		Continuing	Continuing	
Remarks:												
Development Support	MIPR	Redstone Arsenal, AL	0.900	0.500	11/02	0.500	11/03	0.500	11/04	Continuing	Continuing	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.900	0.500		0.500		0.500		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)									DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support	MIPR	Redstone Arsenal, AL	0.353	0.326	11/02	0.311	11/03	0.326	11/04	Continuing	Continuing	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.353	0.326		0.311		0.326		Continuing	Continuing	
Remarks:												
Total Cost			2.286	1.649		1.633		1.646		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 197

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 23 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A4012 Pioneer			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost		6.832	14.002					
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Pioneer Unmanned Aerial Vehicle (UAV) provides near real- time reconnaissance, surveillance, target acquisition, combat assessment and battlefield management within LOS of a Ground Control Station (GCS) in limited weather, both day and night. Deployments have supported numerous joint military operations and contingencies including Bosnia Herzegovina, Somalia, the Adriatic, Persian Gulf operations, DESERT SHIELD and DESERT STORM and OPERATION IRAQI FREEDOM (OIF). During OIF both Marine Pioneer VMU systems were deployed and flew a total of 2357.3 hours in support of combat operations. The VMUs are preparing for future extended deployments. To date, the system has flown in excess of 26,000 flight hours.</p> <p>The Pioneer Program addresses the critical issues facing the Pioneer system; obsolescence, and mobility. The acquisition strategy uses an Engineering Change Proposal approach, focusing on the most urgent user needs. The mobility enhancements consist of down-sized trailer-mounted launchers, HMMWV-mounted GCS, and UAV transport trailers for improved mobility in theater via C-130 aircraft. To meet the payload shortfall, the Pioneer Program will procure additional Army Shadow TUAV Plug-in Optronics Payloads (POP) 200. A new engine is also planned to replace the current engine that has shown reliability issues and is increasingly difficult to sustain due to limited spares.</p> <p>Pioneer is fielded with two operational systems which support USMC land based operations. A third system supports training requirements and the fourth supports test and evaluation.</p> <p>Each operational systems consists of: Five air vehicles that have electro-optical (EO) and infrared (IR) payloads; One GCS; One portable control station; One tracking and communications unit; One to four remote receiving stations.</p>								

R-1 SHOPPING LIST - Item No.

197

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 24 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / B.A. 7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A4012 Pioneer																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 10%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 20%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">4.398</td><td style="text-align: center;">12.059</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">FY03 Initiated development for replacement engines and Modular Integrated Avionics Group (MIAG). FY04 completes GCS development, MIAG supportability upgrade, and engine replacements.</div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		4.398	12.059		RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		4.398	12.059																
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 10%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 20%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">2.434</td><td style="text-align: center;">1.943</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">Government Engineering, Developmental Testing, Program Management Support.</div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		2.434	1.943		RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		2.434	1.943																
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 10%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 20%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;"></div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.

197

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A4012 Pioneer

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget:	6.832	14.159	
Current BES/President's Budget	6.832	14.002	
Total Adjustments	0.000	-0.157	0.000
Summary of Adjustments			
Congressional Undistributed Reductions		-0.157	
Subtotal	0.000	-0.157	0.000

Schedule: Not applicable

Technical: Not applicable

R-1 SHOPPING LIST - Item No. 197

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles		PROJECT NUMBER AND NAME A4012 Pioneer			

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
WPN: 422200 Pioneer	8.828	10.062	8.775	1.949	1.950	1.989	2.030		

E. ACQUISITION STRATEGY:

Pioneer will continue to use ECPs focusing on the most urgent user needs.

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A4012 Pioneer						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	PUI, Hunt Valley, MD		4.398	03/03	12.059	03/04				16.457	16.457
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	4.398		12.059		0.000		0.000	16.457	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses	C/FFP	Anteon, Stafford, VA		1.330	08/04						1.330	1.330
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	1.330		0.000		0.000			1.330	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A4012 Pioneer						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, Pax River, MD				0.370	03/04			0.000	0.370	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.370		0.000		0.000	0.370	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD, Pax River, MD		1.084	01/03	0.467	03/04				1.551	
Program Management Support	WX	NAWCAD, Pax River, MD				1.086	03/04				1.086	
Travel	WX	NAWCAD, Pax River, MD		0.020	01/03	0.020	03/04				0.040	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	1.104		1.573		0.000		0.000	2.677	
Remarks:												
Total Cost			0.000	6.832		14.002		0.000		0.000	20.834	
Remarks:												

R-1 SHOPPING LIST - Item No. 197

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 29 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				February 2004				
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7									0305204N Tactical Unmanned Aerial Vehicles												A4012 Pioneer											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Contract Award																																
Engine Study																																
Engine Integration																																
MIAG Development																																
GCS Development																																
Test & Evaluation Milestones																																
Development Test																																
Operational Test																																
Production Milestones																																
Deliveries																																

* Not required for Budget Activities 1, 2, 3, and 6

R-1 SHOPPING LIST - Item No. 197

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Exhibit R-4, Schedule Profile
(Exhibit R-4, page 30 of 46)

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CLASSIFICATION:

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R-1 SHOPPING LIST - Item No. 197

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 31 of 46)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A9432 Coastline Security Initiative			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A9432 Coastline Security Initiative			1.730					
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add of \$1.75M less \$.020 Congressional undistributed reductions in RDTE,N for the Coastline Security Technology Initiative that is only for continuation of work with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along US Coastlines.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A9432 Coastline Security Initiative																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 30%;"></td><td style="width: 20%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 20%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td style="text-align: center;">1.730</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">FY04 work with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along US Coastlines.</div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost			1.730		RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost			1.730																
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 30%;"></td><td style="width: 20%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 20%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 30%;"></td><td style="width: 20%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 20%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No.

197

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE:
		February 2004
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDTE, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	A9432 Coastline Security Initiative
C. PROGRAM CHANGE SUMMARY:		
Funding:	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000
Current BES/President's Budget	1.730	0.000
Total Adjustments	1.730	0.000
Summary of Adjustments		
Congressional Undistributed Reductions	-0.020	
Congressional Increases	1.750	
Subtotal	1.730	0.000
Schedule: Not applicable.		
Technical: Not applicable.		
D. OTHER PROGRAM FUNDING SUMMARY:		Not applicable
E. ACQUISITION STRATEGY:		Not applicable

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A9432 Coastline Security Initiative						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	TBD				1.730	03/04				1.730	1.730
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		1.730		0.000			1.730	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A9432 Coastline Security Initiative						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		1.730		0.000			1.730	
Remarks:												

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 36 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							February 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-7		0305204N Tactical Unmanned Aerial Vehicles			A9434 Miniature Detection Devices			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A9434 Miniature Detection Devices			0.989					
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
Congressional add of \$1 million, less \$.011 Congressional undistributed reductions, in RDT&E,N to continue the development of lightweight, low power nuclear, chemical, and biological sensors and isotope identification techniques utilizing Micro-Electro-Mechanical Systems (MEMS) technology and innovative detection devices to identify airborne chemical/biological threats and hazardous materials.								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A9434 Miniature Detection Devices																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;"></th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td style="text-align: center;">0.939</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost			0.939		RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost			0.939																
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"></div>																			
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		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost			0.050																
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;"></th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>							FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost					RDT&E Articles Quantity				
		FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"></div>																			

R-1 SHOPPING LIST - Item No.

197

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A9434 Miniature Detection Devices
C. PROGRAM CHANGE SUMMARY:		
Funding:	FY 2004	FY 2005
Previous President's Budget:	0.000	0.000
Current BES/President's Budget	0.989	0.000
Total Adjustments	0.989	0.000
Summary of Adjustments		
Congressional Undistributed Reductions	-0.011	
Congressional Increases	1.000	
Subtotal	0.989	0.000
Schedule: Not applicable		
Technical: Not applicable		
D. OTHER PROGRAM FUNDING SUMMARY: Not applicable		
E. ACQUISITION STRATEGY: Not applicable		

R-1 SHOPPING LIST - Item No. 197

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A9434 Miniature Detection Devices						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	Coalescent, Orlando, FL				0.939	01/04				0.939	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		0.939		0.000			0.939	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 40 of 46)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A9434 Miniature Detection Devices						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD, Pax River, MD				0.050	12/03				0.050	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.050		0.000		0.000	0.050	
Remarks:												
Total Cost			0.000	0.000		0.989		0.000			0.989	
Remarks:												

R-1 SHOPPING LIST - Item No. 197

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 41 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A9435 Precision Re-Supply Vehicle			
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A9435 Precision Re-Supply Vehicle			4.203					
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional add of \$4.25 million, less \$.047 Congressional undistributed reductions for precision Re-Supply Vehicle only.								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004													
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A9435 Precision Re-Supply Vehicle														
B. Accomplishments/Planned Program																
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 30%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 20%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">2.182</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">Contractor will design, develop, test and evaluate, and provide training for a C-130 roll on/roll off platform and UAV Command and Control System with reconnaissance and precision delivery/re-supply capabilities.</div>						FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		2.182		RDT&E Articles Quantity			
	FY 03	FY 04	FY 05													
Accomplishments/Effort/Subtotal Cost		2.182														
RDT&E Articles Quantity																
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 30%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 20%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">1.596</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">Government engineering support to contract technical direction and administration, review re-supply UAV technology and coordinate with contractor for producibility, conduct testing and evaluation of UAV, provide interface definition between UAV and the control station.</div>						FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		1.596		RDT&E Articles Quantity			
	FY 03	FY 04	FY 05													
Accomplishments/Effort/Subtotal Cost		1.596														
RDT&E Articles Quantity																
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;"></td><td style="width: 30%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 20%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">0.425</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 60px;">Program management support.</div>						FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		0.425		RDT&E Articles Quantity			
	FY 03	FY 04	FY 05													
Accomplishments/Effort/Subtotal Cost		0.425														
RDT&E Articles Quantity																

R-1 SHOPPING LIST - Item No.

197

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Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 43 of 46)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2004																																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A9435 Precision Re-Supply Vehicle																																						
<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;"></th> <th style="width: 15%; text-align: right;">FY 2003</th> <th style="width: 15%; text-align: right;">FY 2004</th> <th style="width: 25%; text-align: right;">FY 2005</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">4.203</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black;">4.203</td> <td style="text-align: right; border-top: 1px solid black;">0.000</td> </tr> <tr> <td colspan="4" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional Undistributed Reductions</td> <td></td> <td style="text-align: right;">-0.047</td> <td></td> </tr> <tr> <td> Congressional Increases</td> <td></td> <td style="text-align: right;">4.250</td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">4.203</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.000</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not applicable</p> <p style="margin-top: 20px;">Technical: Not applicable</p> <p style="margin-top: 20px;">D. OTHER PROGRAM FUNDING SUMMARY: Not applicable</p> <p style="margin-top: 20px;">E. ACQUISITION STRATEGY: Not applicable</p>						FY 2003	FY 2004	FY 2005	Funding:				Previous President's Budget:	0.000	0.000	0.000	Current BES/President's Budget	0.000	4.203	0.000	Total Adjustments	0.000	4.203	0.000	Summary of Adjustments				Congressional Undistributed Reductions		-0.047		Congressional Increases		4.250		Subtotal	0.000	4.203	0.000
	FY 2003	FY 2004	FY 2005																																					
Funding:																																								
Previous President's Budget:	0.000	0.000	0.000																																					
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R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A9435 Precision Re-Supply Vehicle						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	TBD				2.182	03/04				2.182	2.182
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		2.182		0.000			2.182	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A9435 Precision Re-Supply Vehicle					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support	WX	NAWCAD, Pax River, MD				1.596	01/04				1.596	
Program Management Support	WX	NAWCAD, Pax River, MD				0.425	03/04				0.425	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		2.021		0.000		0.000	2.021	
Remarks:												
Total Cost			0.000	0.000		4.203		0.000			4.203	
Remarks:												

R-1 SHOPPING LIST - Item No. 197

UNCLASSIFIED

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 46 of 46)